

Fig. 1

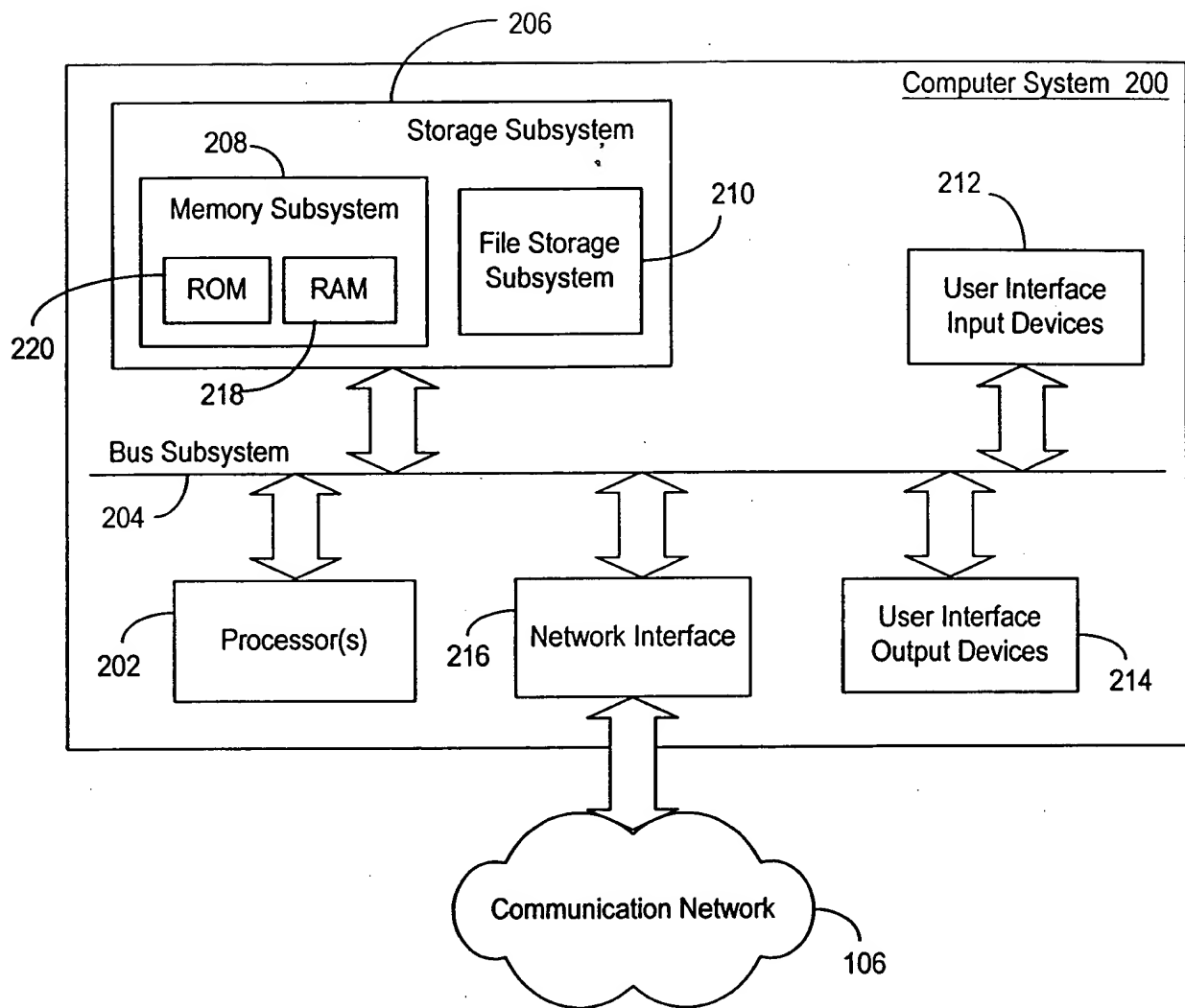


Fig. 2

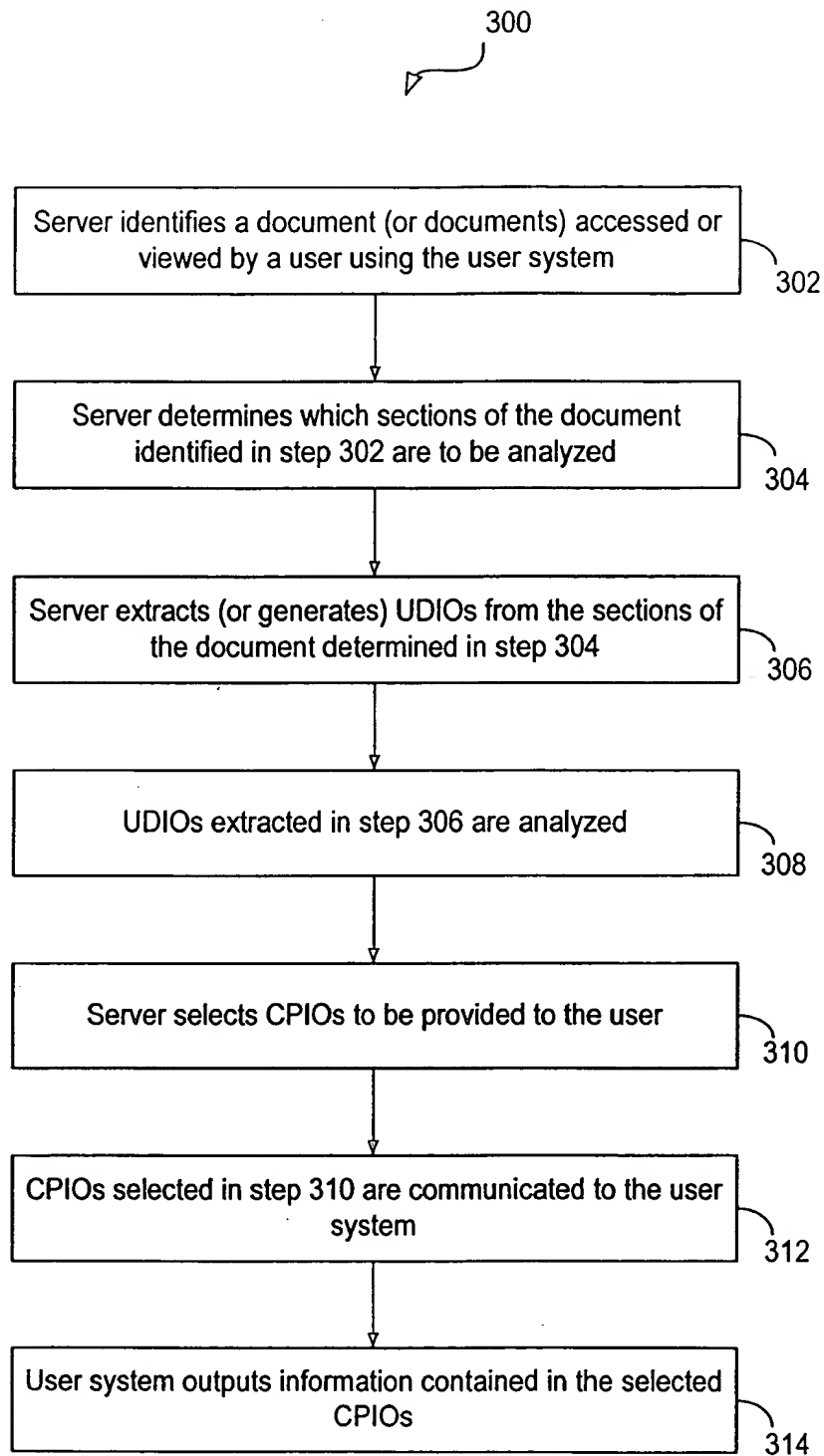


Fig. 3

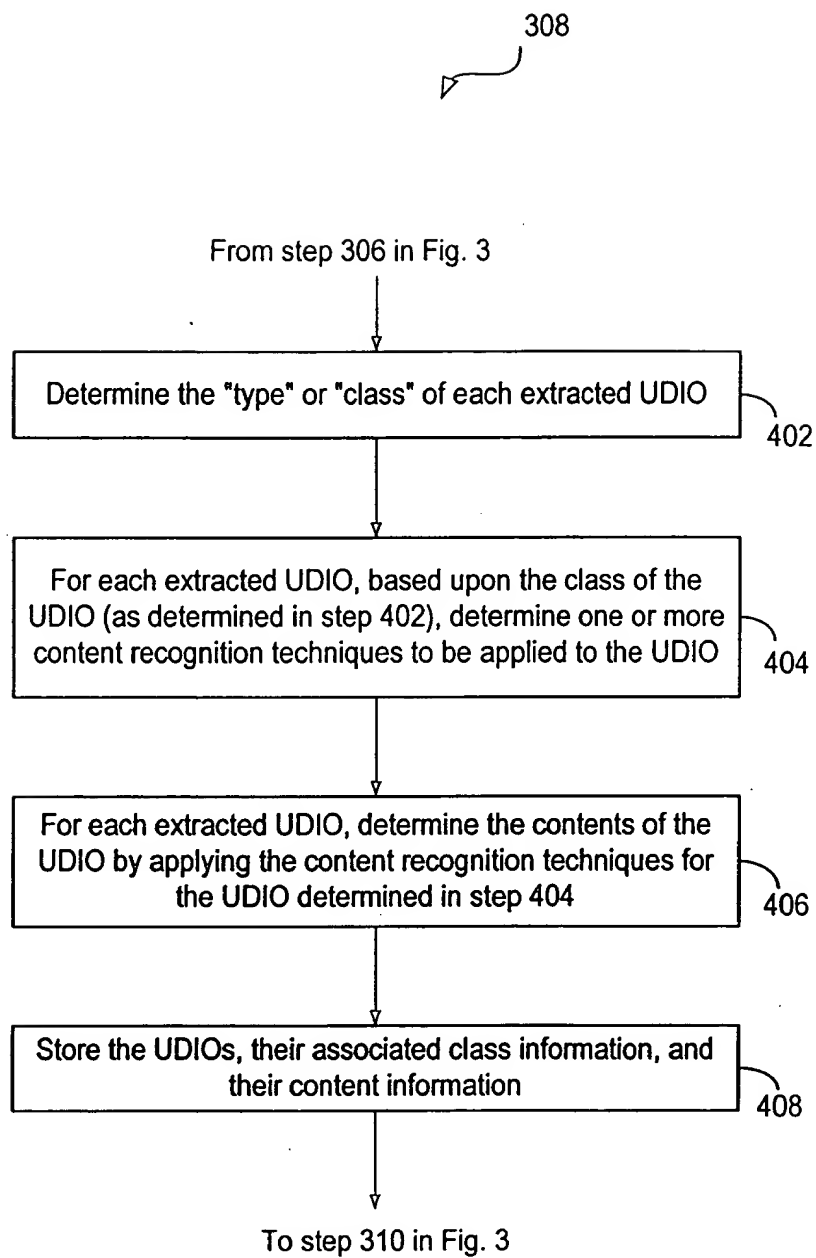


Fig. 4

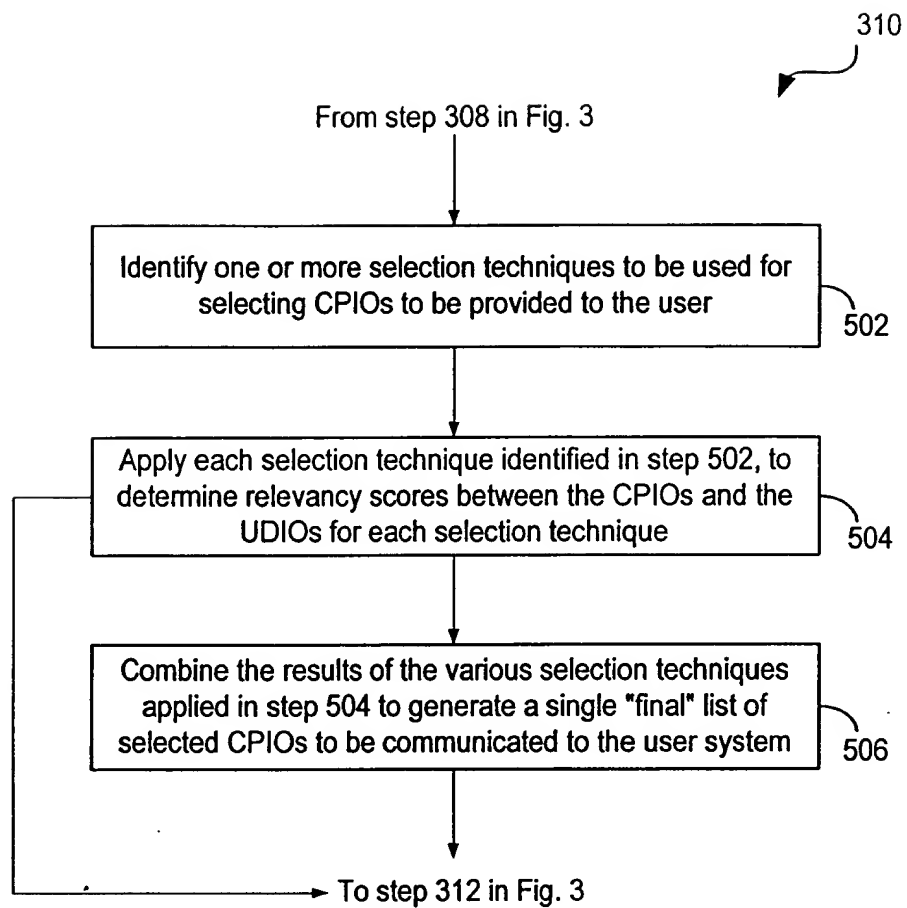


Fig. 5

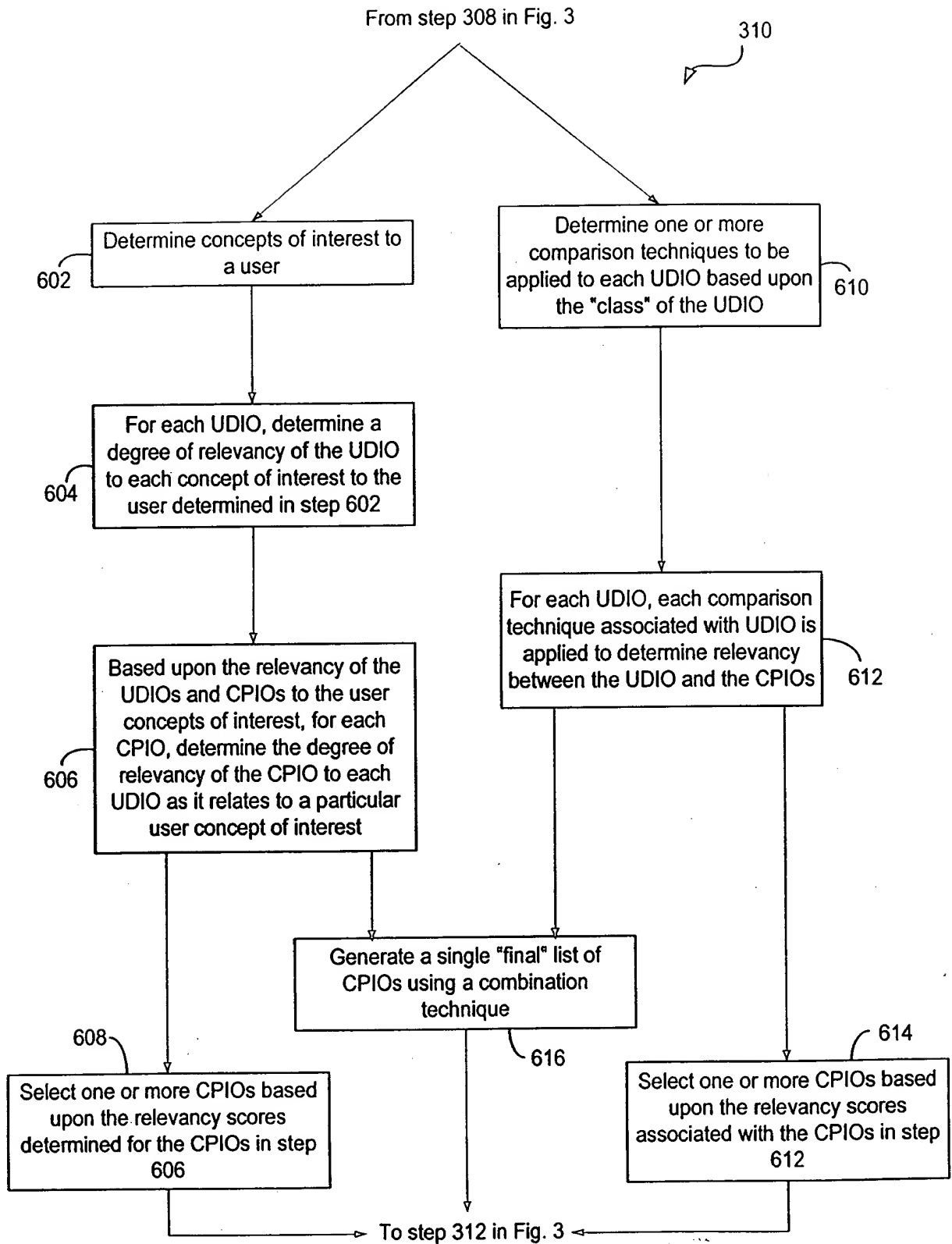


Fig. 6

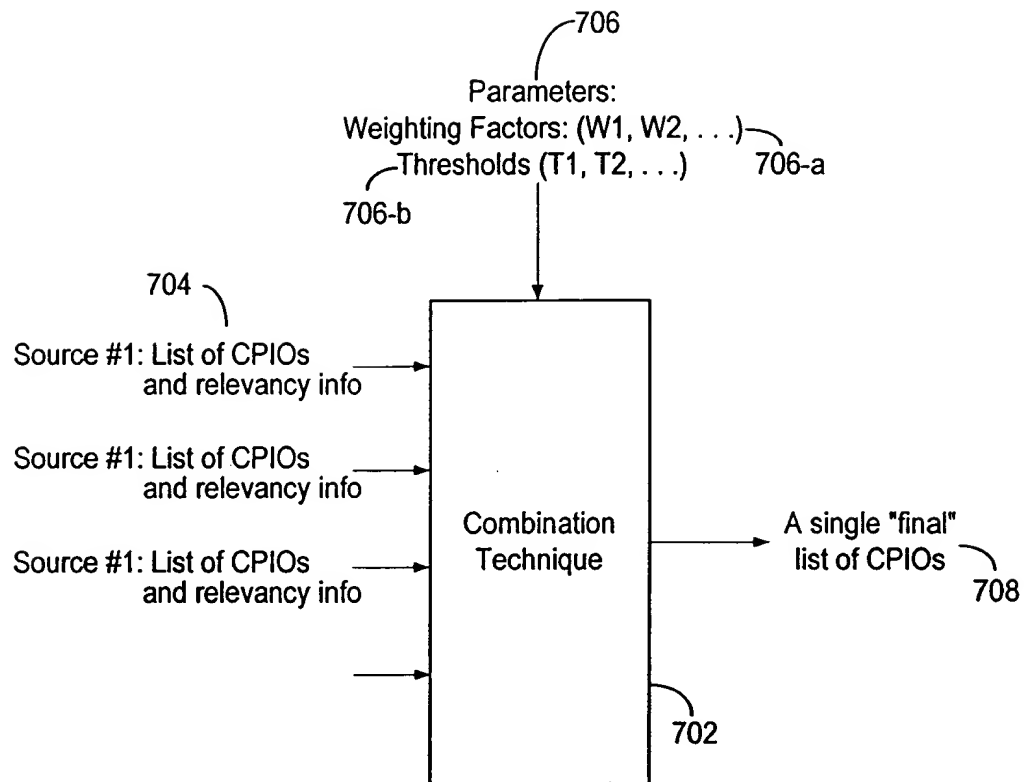


Fig. 7

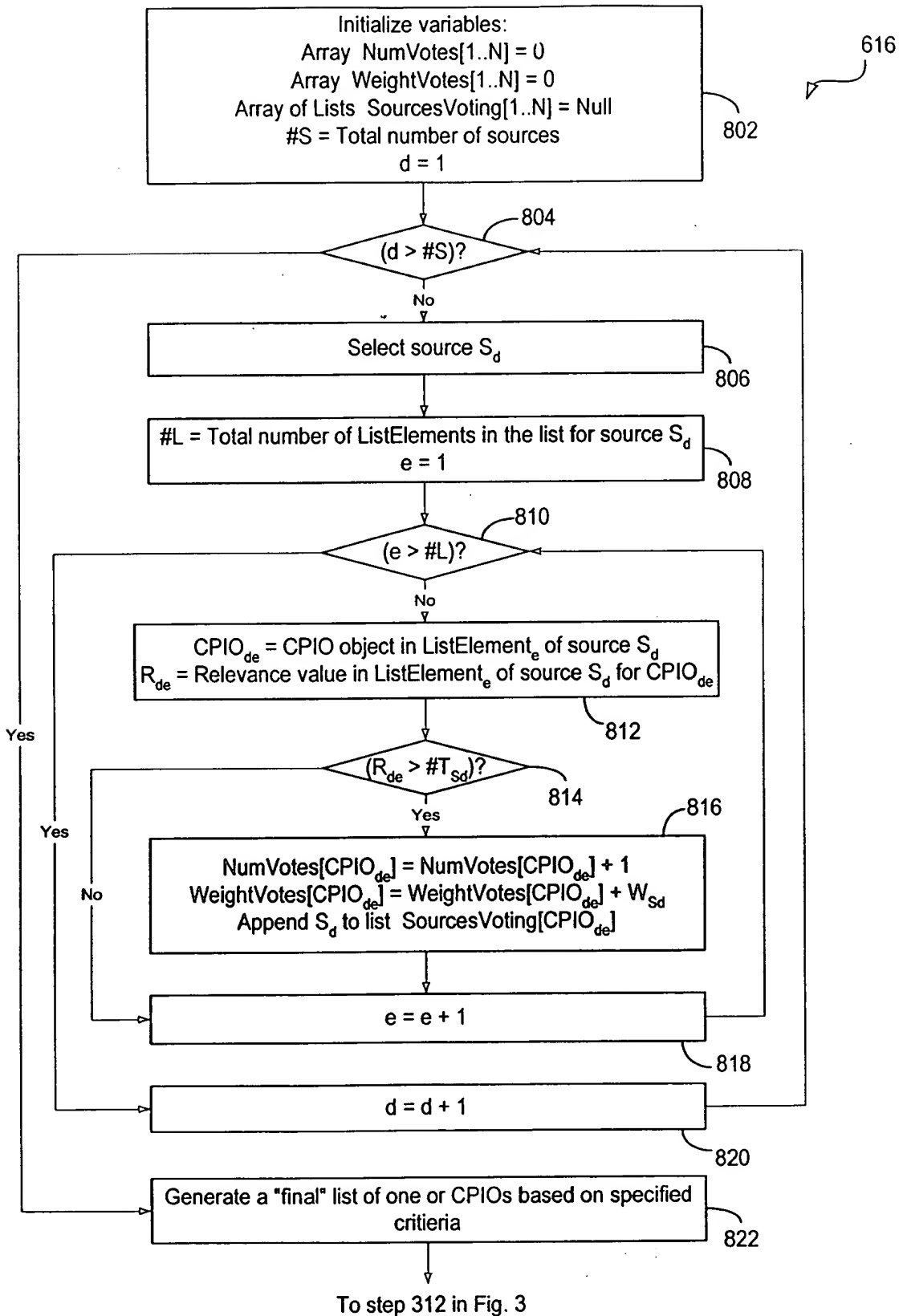


Fig. 8

900

902

906

904

James's Reader's Helper: May/June 99: Cyborg Socks Community

CHI 97 Electronic Publications: Papers

CHI97

ATLANTA GEORGIA USA

LOOKING TO THE FUTURE

51-57 MARCH 1997

900

902

906

904

The Design of a Wearable Computer

Len Bass, Chris Kasabach, Richard Martin, Dan Siewiorek, Asim Smailagic, John Sivoris

Carnegie Mellon University
Pittsburgh, Pa 15213
+1 412 268 6763
(lib. chris.kasabach martin, eds asim.smailagic, john.sivoris)@cmu.edu

Abstract

The design process used to produce an innovative computer system is presented. The computer system that resulted from the process uses a circular motif both for the user interface and the input device. The input device is a dial and the user interface is visually organized around the concept of a circle. The design process itself proceeded in the presence of a great many constraints and we discuss these constraints and how an innovative design was achieved in spite of the constraints.

Keywords

WEARABLE COMPUTERS, INPUT DEVICES, USER CENTER DESIGN, INTEGRATED PRODUCT TEAMS

Further Reading

Cyborg Socks... (89%)

Tourist Wear (55%)

Smart Clothing... (54%)

Fig. 9A

Further Reading
The Design of.. (68%)
Smart Clothing.. (61%)
Tourist Wear (34%)

Fi. 9. 913

910

912

Capitalizing Collective Knowledge for Winning, Executing and Teamwork - NewPlanet 2.1

Digital Manipulatives: New Toys to Think With

Mitchel Resnick, Fred Martin, Robert Berg, Rick Borovoy, Vanessa Colella, Kwin Kramer, Brian Silverman
MIT Media Laboratory
 20 Ames Street
 Cambridge, MA 02139

To be published in the proceedings of the CHI '98 conference

Abstract

In many educational settings, manipulative materials (such as Cuisenaire Rods and Pattern Blocks) play an important role in children's learning, enabling children to explore mathematical and scientific concepts (such as number and shape) through direct manipulation of physical objects. Our group at the MIT Media Lab has developed a new generation of "digital manipulatives" -- computationally-enhanced versions of traditional children's toys. These new manipulatives enable children to explore a new set of concepts (in particular, "systems concepts" such as feedback and emergence) that have previously been considered "too advanced" for children to learn. In this paper, we discuss four of our digital manipulatives -- computationally-augmented versions of blocks, beads, balls, and badges.

Introduction

Walk into any kindergarten, and you are likely to see a diverse collection of "manipulative materials." You might see a set of Cuisenaire Rods: brightly colored wooden rods of varying lengths. The colors and lengths of the rods are carefully chosen to engage children in explorations of arithmetic concepts and relationships. Children discover that each brown rod is the same length as two purples -- or four reds. On the next table, you might see a set of Pattern Blocks. Children can use these polygon-shaped tiles to create mosaic-like patterns -- and, in the process, learn important geometric concepts.

As children build and experiment with these manipulative materials, they develop richer ways of thinking about mathematical concepts such as number, size, and shape. But there are many important concepts that are very difficult (if not impossible) to explore with these traditional manipulative materials. In particular, traditional manipulatives generally do not help children learn

HOME
 Shopping
 News
 Money
 Computing
 Entertainment
 Sports
 Arts
 Food
 Games
 Education
 Family
 Fashion
 Games
 Government
 Health/Fitness
 Internet
 Kids
 Lifestyle

Further Reading
 Smart Toys (75%)
 Kids' Wear (45%)
 e-Legoland (33%)

Fig. 9c